

REMARKS/ARGUMENTS

Status of the Claims

Upon entry of the present amendment, claims 32-40 are pending. Claims 24 and 41-70 are canceled without disclaimer or prejudice to renewal. Claims 32-33 are amended.

Claim 32 is amended to set forth an adsorbent having a binding characteristic for binding an analyte. Support is found throughout the specification and, for example, on page 19, lines 4-11 and 16-21. Claim 32 is further amended to set forth that the binding characteristic varies in a continuous gradient along one or more linear axes of the probe. Support for a continuous gradient is found, for example, on page 30, line 18 through page 31, line 21, and particularly in the paragraph on page 31 from lines 11-21. This paragraph describes a substrate in the form of a strip or a plate that is coated with an adsorbent in which one or more binding characteristic varies in a one- or two-dimensional gradient. The description of how such a gradient can be made, for example by a controlled spray application or by flowing material across a surface in a time-wise manner to allow incremental completion of a reaction over the dimension of the gradient, necessarily describes a continuous gradient, as opposed to a plurality of locations that, together, define a discontinuous gradient. Thus, while the specification does not use the term "continuous gradient," no such *in haec verba* usage is necessary, as the description provides ample support that the inventors were in possession of this invention at the time the application was filed. See, e.g., *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 U.S.P.Q.2d 1111, 1116-1117 (Fed. Cir. 1991).

Claim 33 is amended to properly depend from claim 32.

Interview with the Examiner

Applicants thank Examiner Venci and his Supervising Examiner, Examiner Le, for graciously granting the personal interview with Applicant and Applicants' attorneys on July 29, 2005. The issues discussed during the interview are set forth in the Interview Summary. During the interview, proposed language for amending independent claims 24 and 32 was presented. Examiner Venci and Supervising Examiner Le indicated that the new claims

addressed the pending concerns under Section 112, second paragraph, and overcame the cited art. The Examiner states in the Interview Summary that Applicants' arguments are "generally persuasive."

Objection to the Specification

The Examiner has objected to the specification for recitation in claim 32 of the phrase "binding characteristic of the *substrate*." This objection is rendered moot by amending claim 32 to set forth that the *adsorbent* has a binding characteristic.

Rejection under 35 U.S.C. § 112, first paragraph, enablement requirement

The Examiner has rejected claims 41-70 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. This rejection is rendered moot by the cancellation of claims 41-70, which are currently being pursued in another application.

Rejection under 35 U.S.C. § 112, second paragraph.

The Examiner has rejected claims 24 and 32-70 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite.

- a) Claim 24 is rejected for recitation of "an adsorbent whose binding characteristics." This rejection is rendered moot by the cancellation of claim 24.
- b) Claim 32 is rejected for recitation of "a binding characteristic of the substrate." This rejection is rendered moot by the amendment of claim 32 to set forth an adsorbent having a binding characteristic.
- c) Claims 24 and 32 are rejected for recitation of "gradient," because it is allegedly not clear what parameter is subject to variation. This rejection is addressed by amending claim 32 to clarify that the *binding characteristic of the adsorbent* varies in a gradient.
- d) Claims 24 and 32 are rejected for alleged omission of structural cooperative relationships of elements. This rejection is addressed by amending claim 32 to clarify the relationship of the one or more linear axes to the substrate or the probe.

e) The rejections of claims 41, 52, 55 and 56 are rendered moot by the cancellation of these claims.

Rejections under 35 U.S.C. § 103(a)

A. WO 94/28418 in view of U.S. Patent 5,498,545 ("Vestal")

The Examiner has rejected claims 24 and 32-40 under 35 U.S.C. § 103(a) as allegedly obvious over WO 94/28418 ("the '418 publication") in view of Vestal. This rejection is respectfully traversed because the combined disclosures of the '418 publication and Vestal do not disclose or suggest each and every element of the claimed invention.

As the Examiner well knows, to establish a *prima facie* case of obviousness, the cited references must teach or suggest all the claim limitations. Here, neither the '418 publication nor Vestal, individually or combined, teach or suggest a probe or a substrate comprising an adsorbent having a binding characteristic that varies in a gradient along the length of one or more linear axes of the probe.

In attempting to support his argument of obviousness, the Examiner refers to page 42, lines 5-7 of the '418 publication. This passage of the '418 publication discloses that the affinity devices are arranged in predetermined arrays and that the arrays selectively absorb a plurality of different analytes. However, nothing in this passage or anywhere else in the '418 publication, discloses or suggests a substrate comprising an adsorbent having a binding characteristic that varies in a continuous *gradient*, as commonly defined, along the length of one or more linear axes of the probe.

The inclusion of Vestal does not cure the deficiencies of the '418 publication. Vestal also does not disclose or suggest an adsorbent having a binding characteristic that varies in a continuous *gradient* along the length of one or more linear axes of the probe. Because neither the '418 publication nor Vestal disclose or suggest a required element of the claimed invention, their combined disclosures cannot disclose or suggest each and every element of the claims. Therefore, the '418 publication and Vestal do not render the claimed invention obvious. Accordingly, the Examiner is respectfully requested to withdraw the present rejection.

B. Hutchens and Yip, *Rapid Commun Mass Spectrom* (1993) 7:576 in view of Vestal

The Examiner's rejection of claims 41-70 under 35 U.S.C. § 103(a) over Hutchens and Yip, in view of Vestal, further in view of Miller (U.S. Patent No. 3,669,841) or Nelson (U.S. Patent No. 5,955,729), is rendered moot by cancellation of these claims.

Double Patenting

A. U.S. Patent No. 5,719,060 in view of Vestal

Claims 24, 32-33 and 39-40 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly obvious over claims 15 and 18 of U.S. Patent No. 5,719,060 ("the '060 patent") in view of Vestal. Claims 15 and 18 of the '060 patent do not disclose or suggest an adsorbent having a binding characteristic that varies in a continuous *gradient* along the length of one or more linear axes of the probe. As discussed above, Vestal also does not disclose or suggest this required element of the claimed invention, and therefore does not cure the deficiencies of claims 15 and 18 of the '060 patent. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

B. U.S. Patent No. 5,719,060 in view of Vestal, further in view of WO 94/28418

Claims 34-38 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly obvious over claims 15 and 18 of the '060 patent and Vestal and further in view of the '418 publication. As discussed above, none of claims 15 and 18 of the '060 patent, Vestal, or the '418 publication disclose or suggest an adsorbent having a binding characteristic that varies in a continuous *gradient* along the length of one or more linear axes of the probe. The Examiner is respectfully requested to withdraw this rejection.

C. U.S. Patent No. 5,719,060 in view of Vestal, further in view of Miller or Nelson

The Examiner's rejection of claims 41-70 under the judicially created doctrine of obviousness-type double patenting is rendered moot by the cancellation of these claims.

Appl. No. 10/626,303
Amdt. dated August 19, 2005
Reply to Office Action of June 14, 2005

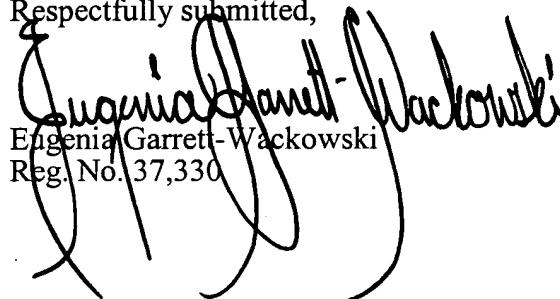
PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,



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